231T63

DMITRIYEV, A. A.

USSR/Geophysics - Self-Excited Oscillations of Waves 11 May 52

"Self-Excited Oscillatory Motion Due to Swells on Sloping Banks," A. A. Dmitriyev, T. V. Bonchkovskaya, Marine Hydrophys Inst, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 84, No 2, pp 265-268

States that, at present, when great works are being carried out in the USSR on the construction of canals and reservoirs, special interest is shown in investigations of processes of destructive erosion, by wave currents, of natural banks. In this connection, article states, the Marine Hydrophys Inst conducted suitable expts, the results of which are described in this article. Submitted by Acad V. V. Shuleykin 19 Mar 52.

231T63

231T63

USSR

Light-polarizing method for observation of thermal circulation of liquids. A. A. Dmitriev. *Trudy Moskovsk. Gidrometeor. Inst., Akad. Nauk S.S.S.R.* 3, 30–4(1953); *Referat. Zhur., Khim.* 1954, No. 32092.—The thermal motion of liquids was studied in a flat, rectangular cell filled with V_2O_5 gel. Part of the bottom plate was heated and part was cooled. The cell was placed between crossed polaroids and was illuminated by parallel light. The picture produced by double refraction was photographed. Stationary waves were studied with the same set-up except for stroboscopic illumination.

M. Hoseh

DIMITRIYEV, A. A. Jul/Aug 53

USSR/Geophysics - Ocean Waves

"Waves on the Surface of a Viscous Liquid Excited by a Pulsating Source," A. A. Dimitriyev, Marine Hydrophys Inst, Acad Sci USSR

Iz Ak Nauk SSSR, Ser Geofiz, No 4, pp 335-345

Discusses waves on the surface of a deep liquid. Gives asymptotic solution for the case of large distances and small viscosities. Results are used to analyze the work of wave dampers and to study the damping of the amplitude of sea swells in a deep sea at considerable distances from the source of excitation.

265 T83

DMITRIYEV, A. A. Sep/Oct '53

USSR/Geophysics - Atmospheric Circulation

"Observations of Thermal Circulation by Polarized Light, and the Self-Excited Oscillatory Scheme of This Circulation," A. A. Dmitriyev, Marine Hydrophys Inst, Acad Sci USSR

Iz Ak Nauk SSSR, Ser Geofiz, No 5, pp 429-444

By observing the thermal circulation on2-dimensional vertical models under polarized light the author traces schematically the atm currents for the cases of symmetric and nonsymmetric distribution of sea temps around an island. Compares results with data of the literature. Deduces the polarized-light picture of cellular circulation of the Benar cells type. Generalizes the analysis of wave-shaped excitations at the bottom of the sea in the form of a certain conventional scheme of self-excited temp oscillations.

T67T76

DMITRIYEV, A. A.

"Effective Work of a Wave Damper," DAN SSSR, Vol 89, No 4, pp 631-33, Apr 53.

Work of wave dampers (volnogor) with periodical variation of immersed volume is transferred as kinetic energy to liquid particles. Author finds that immersion, equal to 1/3 wave length, of wave damper gives optimum results. Presented by Acad. V. V. Shuleykin.

256T90

DMITRIYEV, A.A.

Zero (2)

3

Applied Mechanics Reviews
Vol. 7 No. 4
Apr. 1954
Flow and Flight Techniques

1255. Dmitriev, A. A., and Bonchkovskaya, T. V. Polarized-light method applied in the observation of wave movements in the vicinity of a vertical, hard wall (in Russian), Doklady Akad. Nauk SSSR (N.S.) 90, 3, 347-349, May 1953.
Waves in water (11 cm deep in a tank 200 cm by 15 cm, with a damper) are generated and their reflection from a vertical endwall is studied by an undefined "polarized-light method." Apparently, spots on a film record of the motion are assumed to represent water particles. Resulting trajectories show deviations from nonlinear theory and are vaguely ascribed to "non-ideal circulation near the wall" and to spurious wave reflections from the wave generator. M. V. Morkovin, USA

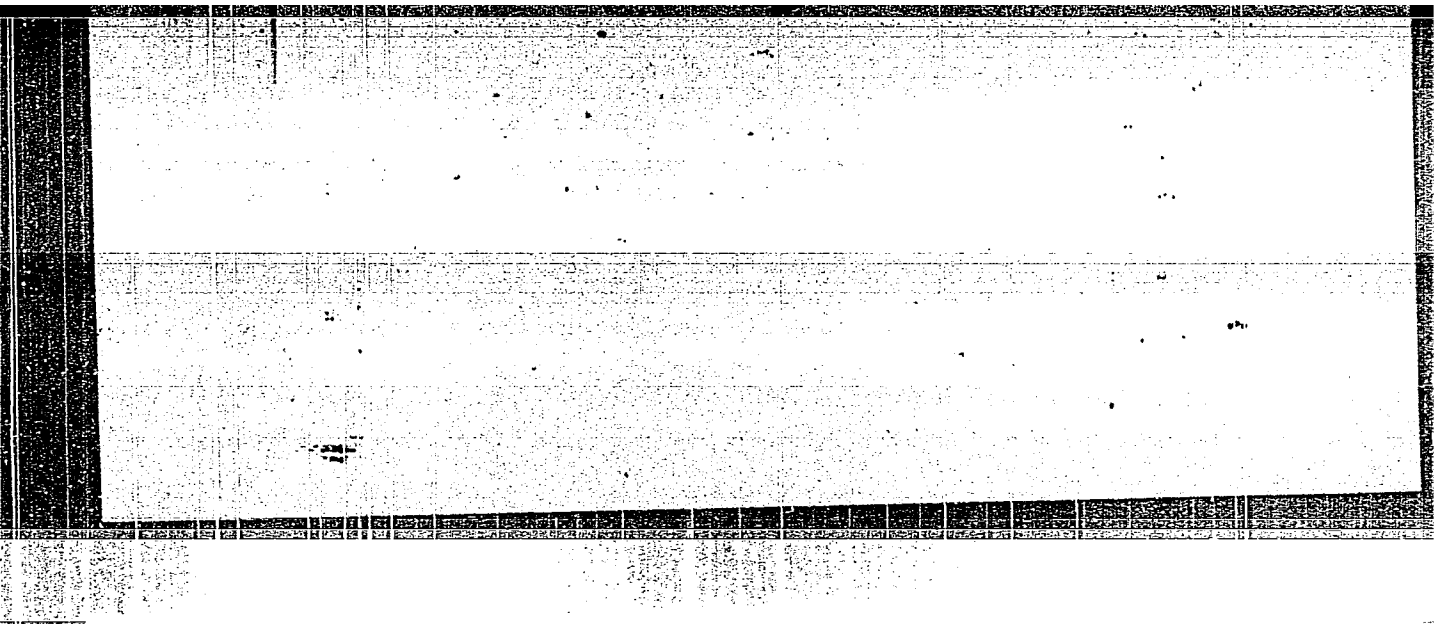
DMITRIYEV, A.A.; SHULEYKIN, V.V., akademik.

Passage of long waves through an obstacle with partial reflection and given reflection coefficient. Dokl.AN SSSR 90 no.4:509-512 Je '53. (MLRA 6:5)

1. Akademiya Nauk SSSR (for Shuleykin). (Waves)

States that this problem, which was posed by V. V. Shuleykin, is of interest in analyzing the passage of long sea waves: (a) over underwater ridges; and (b) in constriction of channels. It is also of possible interest in discussing certain phenomena in the atmosphere. Determines by operational analysis the reflection from 1 and 2 obstacles. Presented by V. V. Shuleykin 13 Mar 53.

254T71



DMITRIYEV, A.A.

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P.; BUCHINSKIY, I.Ye.; SEMANINOV, G.T., professor; BOSHNO, L.V.; ALISOV, B.P.; BIRYUKOV, N.N.; GAL'TSOV, A.P.; GRIGOR'YEV, A.A., akademik; EYGENSON, M.S., professor; MURETOV, N.S.; KHROMOV, S.P.; BOGDANOV, P.N.; LEBEDEV, A.N.; SOKOLOV, V.N.; YANISHEVSKIY, Yu.D.; SAMOYLENKO, V.S.; USMANOV, R.F.; CHUBUKOV, L.A.; TROTSENKO, S.Ya.; VANGENGEYM, G.Ya.; [illegible] N.S.; ISAYEV, E.A.; DMITRIYEV,

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410510018-1"

DMITRIYEV, A.A.

124-11-12735

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr. 11, p. 60 (USSR)

AUTHOR: Dmitriyev, A. A., and Bonchkovskaya, T. V.

TITLE: Model Observations of the Motions Resulting from a Frontal Impingement of a Wave upon a Slope, and Some Considerations of the Circulations Occurring during an Oblique Approach of a Wave toward a Plane, Inclined Shore. (Nablyudeniya na modelyakh dvizheniy, voznikayushchikh pri frontal'nom udare volny ob otkos, i nekotoryye soobrazheniya o tsirkulyatsiyakh pri kosom podkhode volny k ploskomu naklonnomu beregu)

PERIODICAL: Tr. Mor. gidrofiz. in-ta, A. N. SSSR, 1954, Nr 4, pp 31-71

ABSTRACT: Description of the results of experimental and theoretical investigations of the erosion of natural slopes by wavy currents. Particular attention is directed to a clarification of the structure of the wave motion, particularly during the breaking phase. Tests were carried out in a transparent wave basin 15.2 cm wide and 200 cm long. Waves were generated exhibiting heights of 2.5 cm, lengths of 30 cm, and a period of 0.4 sec. The observations, predominantly, were performed with a polarized-light instrument. Moving pictures were taken of the visual patterns formed in the water by a suspension of kolloidal vana-

Card 1/2

Model observations of the motions resulting from a frontal impingement of a wave upon a slope, and some considerations of the circulations occurring during an oblique approach of a wave toward a plane, inclined shore. (continued)

dium pentoxide. An evaluation of the pictures of successive phases of a single wave cycle (at 0.034-sec intervals) lead to the tracing of vector-field charts of the particle displacements during the impingement of the wave upon a 15-degree and a 30-degree slope. From a consideration of the structure of the motion of the particles during the breaking process of the wave on the slope, deductions are formulated concerning the erosion and the silting of various portions of the slope. It is established that the impulse acquired by the particles near the ground from the wave motion leads to the formation, along the shoals near the shoreline, of a groundswell which carries silting material toward the shore. At greater depth a similar circulation of opposite sign may be found. The presence of oscillatory motions, similar to those in a stalled fluid flow, is noted. The breaking of waves in relation to the steepness of the slopes encountered was studied, and also the transformation of the slope through the action of the waves. The location of the bands of erosion and the bands of silting depends on the steepness of the slope. With gentle slopes these zones are disposed farther from the waterline, while the erosion extends towards greater depths.

(B. Kh. Glukhovskiy)

Card 2/2

14-57-6-12087

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 61 (USSR)

AUTHORS: Dmitriyev, A. A., Sokolova, I. N.

TITLE: An Appraisal of Wind Velocity and Profile Change in the Winds Passage From Land to Sea (Skhema otsenki izmeneniy skorosti i profilya vetra pri perekhode s sushi na more)

PERIODICAL: Tr. Morskogo gidrofiz. in-ta AN SSSR, 1954, Vol 4, pp 87-93

ABSTRACT: Bibliographic entry

Card 1/1

SOV/124-57-3-3197

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 80 (USSR)

AUTHOR: Dmitriyev, A. A.

TITLE: An Analysis of the Polarized-light Picture of a Thermal Circulation (Analiz svetopolyarizatsionnoy kartiny termicheskoy tsirkulyatsii)

PERIODICAL: Tr. Mor. gidrofiz. in-ta, AN SSSR, 1954, Vol 4, pp 143-158

ABSTRACT: The paper adduces a theoretical and experimental investigation of thermal circulation under some idealized conditions. A polarized-light picture is obtained of the circulation of a fluid in a right parallelepiped which originates under the action of one or several pairs of heat sinks and heat sources. A schematic chart is also constructed of the streamlines observed from the motion of the particles. The author investigates theoretically the motion of an incompressible viscous fluid between two coaxial cylinders. The fluid is bounded above and below by plane cover plates perpendicular to the axis of the cylinder. Having computed the circulation arising under the effect of the rotation of the outer cylinder and the cover plates the author has theoretically confirmed the experimental results obtained by Ya. V. Mamul' (Zh. tekhn. fiziki, 1936, Vol 6, Nr

Card 1/2

An Analysis of the Polarized-light Picture of a Thermal Circulation

11) according to which the streamlines between two coaxial cylinders are spirals tending to coincide with the circumferences with an increase in the rotational velocity. Bibliography: 9 references.

A. S. Sarkisyan

DMITRIYEV, A. A. FD 396
USSR/Geophysics - Wave particle motions

Card 1/1

Author : Dmitriyev, A. A., and Bonchkovskaya, T. V.

Title : Effect of currents on the wave motions of a fluid

Periodical : Izv. AN SSSR, Ser. geofiz. 4, 360-374, Jul/Aug 1954

Abstract : Solve theoretically the problem of the wave motions in a fluid that occur during the imposition of a driving current varying with altitude. Experimentally investigates the displacements of particles in a forced wave when acted upon by a wind current. Experiments are conducted in a transparent wave trough in two ways: a) light-polarized method and b) method of fixed behavior of the emulsion particles in the fluid. Finally solves a concrete theoretical problem with parameters taken from an experiment and for a schematized diagram of the drift velocities that is close to experience.

Institution : Marine Hydrophysics Institute, Acad Sci USSR

Submitted : November 3, 1953

DMITRIYEV, A.A.

USSR/Engineering -- Hydrodynamics

Card 1/1 : Pub. 22 -- 9/44

Authors : Dmitriev, A. A.

Title : Passage of two-dimensional waves of a small amplitude over a submerged wall

Periodical : Dok. AN SSSR 97/6, 981-984, Aug 21, 1954

Abstract : The behavior of a small amplitude-wave passing over a submerged wall is studied with the help of mathematical analysis. Two references (1953).

Institution :

Presented by : Academician V. V. Shuleykin, April 12, 1954

DMITRIYEV, A. A.

USSR/Geophysics - Sea wave reflection FD-1707

Card 1/1 : Pub. 45-7/12

Author : Dmitriyev, A. A.; Bonchkovskaya, T.V.; and Levchenko, S. P.

Title : Problem of the reflection of long waves from coastal inclines

Periodical : Izv. AN SSSR, Ser. geofiz., 60-68, Jan-Feb 1955

Abstract : The authors solve the problem of the passage of long waves over an under-water inclined bank possessing constant inclination and uniting the horizontal parts of the bottom of different depth. They calculate the coefficient of reflection and transmission of the waves. They described the experiments conducted. Two references; e.g. P. K. Bozhich and N. N. Dzhunkovskiy, Morskiye voleniye i yego deystvie na sooruzheniya i berega [Swells and their action on installations and shore], Machine Construction Press, Moscow 1949.

Institution : Marine Hydrophysics Institute, Academy of Sciences USSR

Submitted March 18, 1954

124-57-2-1944

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 66 (USSR)

AUTHORS: Dmitriyev, A. A., Bonchkovskaya, T. V.

TITLE: An Application of the Polarized Light Method to the Investigation of the Motion in Agitated Liquids (Primeneniye svetopolyarizatsionnogo metoda k issledovaniyu dvizheniya v volnuyushcheysya zhidkosti)

PERIODICAL: Tr. Mor. gidrofiz. in-ta AN SSSR, 1955, Vol 5, pp 15-23

ABSTRACT: Experimental data are adduced on the characteristics of the wave motion of a heavy liquid in a small plane-parallel vessel, obtained through the use of a polarized-light instrument consisting of a light source (mercury-argon lamp), two lenses, and two polarizing filters. The vessel is placed between the polarizing filters and is filled with an optically active fluid, capable of wave formation (a colloidal solution of vanadium pentoxide) with a viscosity close to that of water. The wave front is parallel to the axis of the light beam emitted from the polarizer. The experiments show that the wave motion is close to a potential motion. Some turbulence exists at the apex of the wave, but it decreases toward the side and the trough. The data on the characteristic of the wave

An Application of the Polarized Light Method (cont.)

motion near the wall are discussed, and theoretical concepts on the extinction of the vortices in the wave motion with increasing depth beneath the free surface are offered. The latter are well known in their application to free waves (ref. Lamb, H.I., Hydrodynamics, 1947, p 790).

M.D.Khaskind

1. Water waves--Simulation 2. Water waves--Testing equipment 3. Water waves --Test results

Card 2/2

124-58-6-6700

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 6, p 56 (USSR)

AUTHORS: Dmitriyev, A. A., Bonchkovskaya, T. V., Teplov, A. V.

TITLE: On the Extinction of Waves by a Pneumatic Breakwater (O gashenii volny pnevmaticheskim volnolomom)

PERIODICAL: Tr. Mor. gidrofiz. in-ta AN SSSR, 1955, Vol 5, pp 24-38

ABSTRACT: The three basic causes of the extinction of waves are given: 1) Extinction of a wave by superimposing upon it a velocity field generated by the movement of air bubbles. 2) Reflection of a wave from an air-bubble screen. 3) Energy dissipation due to the compression and expansion of the rising air bubbles. The extinction effect investigated in the main is the one due to circulatory currents and turbulence. A description of experiments performed on a pneumatic breakwater model installed on the bottom of a transparent wave basin is given. The test basin is 4 m long, 15 cm wide, and 24.5 cm deep. Both cinematography and photography were employed. For determining the circulation within the liquid the polaroid light method was used. The currents created by the air injected into the liquid at different air pressures were observed, as well as the effect

Card 1/2

of these currents on the waves approaching the breakwater. In the theoretical part of the paper it is pointed out that the work expended in compressing the air injected into the liquid is neglibible and may be disregarded. The role played by the current and the turbulence in wave damping is evaluated. By means of an example it is demonstrated that the effects of the currents and of the turbulence are of the same order of magnitude. At smaller discharge rates of air the effectiveness of turbulence increases and that of the counter-currents diminishes. The results of the work by Yu Yi-Yuan (Yi-Yuan Yu, Trans. Amer. Geophys. Union, 1952, Vol 33, Nr 1, pp 39-41) treating the same topic are discussed.

1. Breakwaters--Design 2. Breakwaters--Performance
3. Water waves--Control 4. Pneumatic systems--Performance

S. S. Voyt

Card 2/2

SOV/124-57-7-8038

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 86 (USSR)

AUTHOR: Dmitriyev, A. A.

TITLE: Some Aspects of the Dynamics of Cyclones When Viewed Schematically as Vortex Rods Placed in a Nonhomogeneous Field (Nekotoryye voprosy dinamiki tsiklonov kak vikhrevykh sterzhney v neodnorodnom pole)

PERIODICAL: Tr. Mor. gidrofiz. in-ta AN SSSR, 1955, Vol 6, pp 33-42

ABSTRACT: Evolving the S.A. Chaplygin problem in its classical formulation for several specific cases, the author sets out to determine the forces that act upon a vortex of finite cross-sectional area situated in a flow having a nonhomogeneous velocity field; the specific cases for which he does this are: 1) A stationary vortex situated in the velocity field of another vortex having a homogeneous flow superimposed upon it; 2) a stationary vortex situated at the hyperbolic point of a velocity field created by two other vortices having circulations that are different in magnitude but have the same sign; 3) a vortex describing a circle around the center of another vortex. In this last case in particular, wherein the vortex rod has a velocity of its own (with respect to the

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Some Aspects of the Dynamics of Cyclones When Viewed Schematically (cont.)

motion due to the outer vortex), is it possible to find an expression for the supplementary force acting upon the vortex:

$$\Delta F = - \rho \tilde{\gamma} (v_\Gamma - v_\omega)$$

where γ is the supplementary circulation of the moving vortex, v_Γ is the velocity due to the driving vortex, and v_ω is the velocity of the peripheral motion of the vortex rod. It is assumed throughout that the vortex rod has the following structure:

$$v = \frac{\gamma r}{2\pi r_o^2} \quad (r \leq r_o) \qquad v = \frac{\gamma}{2\pi r} \quad (r \geq r_o)$$

In the work described in this paper, the author has used the well-known apparatus of the theory of planar motions of a fluid.

P. S. Lineykin

Card 2/2

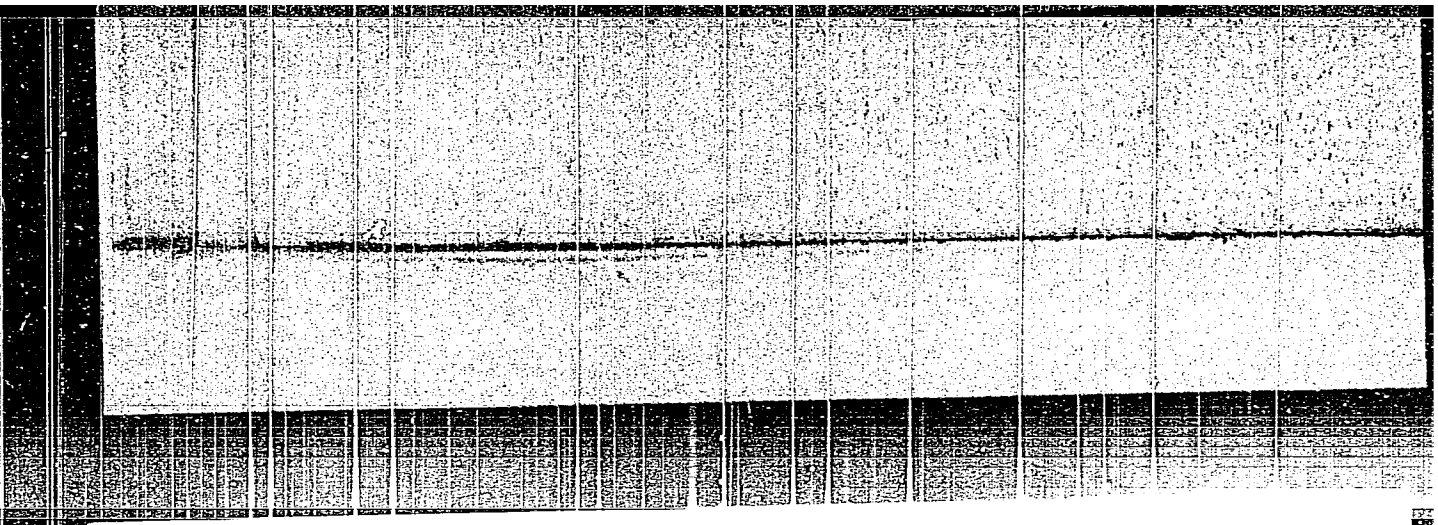
DMITRIYEV, A.A.

DMITRIYEV, A.A.; BONCHKOVSKAYA, T.V.; KALININA, T.A.

Temperature and pressure variations during total solar eclipses. Dokl. AN SSSR 103 no.4:597-600 Ag '55. (MLRA 8:11)

1. Morskoy gidrofizicheskiy institut. Predstavleno akademikom V.V. Shuleykinym.

(Eclipses, Solar)



SOV/124-57-4-4319

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 67 (USSR)

AUTHORS: Dmitriyev, A. A., Bonchkovskaya, T. V.

TITLE: A Laboratory Device for the Investigation of Wave Motion in a Liquid (Laboratornaya ustanovka dlya issledovaniya volnovykh dvizheniy zhidkosti)

DMITRIYEV, A.A.; BONCHKOVSKAYA, T.V.

Characteristics of wave motions in a channel having an underwater baffle. Trudy MGI 7:72-92 '56. (MLRA 9:9)
(Waves) (Fluid mechanics)

SOV/124-57-5-5781

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 106 (USSR)

AUTHORS: Dmitriyev, A. A., Bonchkovskaya, T. V., Kalinina, T. A.

TITLE: To the Question of the Change in Meteorological Elements During a Solar Eclipse (K voprosu ob izmenenii meteorologicheskikh elementov vo vremya solnechnogo zatmeniya)

PERIODICAL: Tr. Mor. gidrofiz. in-ta AN SSSR, 1956, Vol 7, pp 93-119

ABSTRACT: Bibliographic entry

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SOV/124-57-7-8063

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 93 (USSR)

AUTHOR: Dmitriyev, A. A.

TITLE: On a Possible Explanation of Some of the Features of the Measured Wind-velocity Distribution With Altitude Above the Oceans (O vozmozhnom ob"yasnenii nekotorykh osobennostey izmerennogo nad okeanom raspredeleniya vetra s vysotoy)

PERIODICAL: Tr. Mor. gidrofiz. in-ta AN SSSR, 1956, Vol 8, pp 109-112

ABSTRACT: The measurements made by Jones (RZhMekh, 1954, abstract 5245) showed that in many cases the wind velocity within the 15-600 meter altitude range, instead of increasing, actually decreases with increasing altitude. This decrease in the wind velocity is related to large positive differences between the temperature of the ocean water and that of the overlying air. The author puts forward a hypothesis intended to account for this paradox. His hypothesis assumes the existence of a quasi-periodic small-scale thermal circulation the intensity of which is supposed to vary concurrently with the temperature difference between the ocean water and the air overlying it. The amplitude

Card 1/3

On a Possible Explanation of Some of the Features of the Measured (cont.)

of the horizontal velocity component of this circulation decreases with increasing altitude. The actual wind velocity, then, is the sum of some mean wind, unrelated to the thermal circulation, plus the horizontal velocity component of said thermal circulation. The cup anemometer (with the aid of which the Jones observations were made), having nonlinear characteristics, tends to overrate the mean wind-velocity values, wherein, at any given level, the amount of overrating tends to vary concurrently with the magnitude of the deviation of the wind velocity from the wind-velocity mean. Thus the degree of overrating decreases with increasing altitude. When this effect is superimposed on the real increase in the mean wind velocity with increasing altitude, the result may well be that observations made of the wind-velocity profile with a cup anemometer will appear to indicate no increase at all, and possibly even a decrease, in the wind velocity with increasing altitude. Hence, the observed decrease in the wind velocity with increasing altitude is purely an apparent one and is caused by systematic instrument errors in the anemometer. In support of his hypothesis the author cites quantitative estimates based on elementary anemometer theory. The estimates do indeed indicate that the overrating error in the anemometer readings, which error decreases with increasing altitude according to a square law, actually may cancel out the real increase in the wind velocity that occurs as the altitude increases. The effect had on anemometer readings by

deviations of the true wind velocity from the wind-velocity mean is a subject that has been examined more fully in a paper by A. M. Yaglom (Tr. Geofiz. in-ta AN SSSR, 1954, Nr 24). The present study was made independently of Yaglom's work.

L. S. Gandin

DMITRIYEV, A.A.; BONCHKOVSKAYA, T.V.

Reflection of weak two-dimensional waves from submarine slopes and an immersed wall. Trudy Okean. kom. 2:116-125 '57. (MLRA 10:9)

1. Morskoy gidrofizicheskiy institut Akademii nauk SSSR.
(Reflection) (Waves)

DMITRIYEV, A.A.

20-6-14/48

AUTHOR: Dmitriyev, A.A.

TITLE: The Calculation of the Conventional Coefficient of the Thermal Conductivity in Molding Atmospherical Processes (Otsenka uslovnogo koeffitsyenta temperaturoprovodnosti pri modellirovanii atmosfernykh protsessov)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1104 - 1106 (USSR)

ABSTRACT: First it is referred to the essential results of a number of preparatory papers on the subject. When molding the atmospherical circulation it is necessary to calculate the apparent coefficient of thermal conductivity in order to put it into the corresponding similarity criteria. As the author here only wants to determine the order of magnitude of this coefficient, he contents himself with the following rough scheme: Above the model of a circualr warmed up island of the radius R an intensive exchange of the warm liquid with the cold liquid from the surrounding area is to take place n times a second. Let the liquid layer be of the thickness of H, of the density of ρ and of the heat capacity of c. Each portion be warmed up by the amount of ΔT, which is equal to the difference of the mean

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20-6-14/48

The Calculation of the Conventional Coefficient of the Thermal Conductivity in Molding Atmospherical Processes

temperatures of the "atmosphere" above the "island" and above the sea. Then the quantity of heat $Q_1 = n\pi R^2 \varsigma cH \Delta \overline{T}$ fades away per unit of time from the island. On the other hand it is assumed that the transmission of heat over the shore line can be described by the heat conduction equation with a fictitious coefficient of thermal conductivity a_f^2. Therfore the whole heat flow can be put down in the form of $2\pi R a_f^2 c\varsigma H \, dT/dr|_{r=R} = Q_2$.

By equating these two formulae, $a_f^2 = nR\Delta R \, \overline{T}/2 \, dT/dr|_R$, is found for the fictitious coefficient of temperature conductivity in demand. The order of magnitude of the temperature gradient $\Delta \overline{T}$ over the shore line is determined by the degree of heating and by the diameter R of the island. By introducing the proportionality coefficient it can be put down $dT/dr|_R = \chi \Delta T/R$. The numerical value of χ is determined by the law of temperature distribution over the island. Then by $\tau = 1/n$ it is obtained $a_\Phi^2 = R^2/2\tau\chi$. Then another expression for a_f^2 obtained under different assumptions is given. The here obtained formulae then are applied to different results from observations

Card 2/3

20-6-14/48

The Calculation of the Conventional Coefficient of the Thermal Conductivity in Molding Atmospherical Processes

There are 4 references, 2 of which are Slavic.

ASSOCIATION: Marine Institute of Hydrophysics, AN USSR
(Morskoy gidrofizicheskiy institut Akademii nauk SSSR)

PRESENTED: April 10, 1957, by V.V. Shuleykin, Academician

SUBMITTED: April 6, 1957

AVAILABLE: Library of Congress

Card 3/3

Dmitriyev, A.A.

49-58-3-4/19

AUTHORS: Zhavoronkina, T. K. and Dmitriyev, A. A.

TITLE: Distribution of the chlorine concentration in atmospheric precipitation above mainlands. (Raspredeleniye kontsentratsii khlora v atmosfernykh osadkakh nad materikom).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr. 3, pp. 330-336 (USSR).

ABSTRACT: The distribution of chlorine in the atmospheric precipitation above mainlands is considered and an attempt is made to derive theoretically the distribution of chlorine by means of analysis of a model of a mainland of rectangular contour of a width H and a length L in the case of a wind in the longitudinal direction, assuming a constant salinity c of the rain masses at the edges. The loss in salinity is proportional to the original salinity multiplied by the relative speed of precipitation. The basic relation is Eq.(1), p.330. The law expressing the distribution of the concentration for the mainland model under consideration is Eq.(19), p.332. For obtaining statistically justified data on the salinity of the precipitation, a mass collection was made of samples which were analysed spectrally by a network of meteorological

1/7 stations distributed along two straight lines, one from

Distribution of the chlorine concentration in atmospheric precipitation above mainlands.

west to east, along the middle zonal direction of the wind in the atmosphere; the other along a meridian in the central part of the European part of the Soviet Union enabling observation of the distribution of the salinity from the Barents Sea to the Black Sea. In addition to salinity, the chlorine concentration was investigated. The values of chlorine concentration measured in twelve stations during winter and summer are entered in a table, p.333 and the values of the average dispersion of the individual observations for the respective months and periods are also given. The experimentally determined results are plotted on charts, Figs.2 and 3, and compare favourably with the theoretically derived results. The assumption was confirmed of the smaller role played by the smaller Black Sea than by the larger northern seas; however, the differences are within the limits of random divergences and, therefore, cannot be considered as sufficiently conclusive. Acknowledgments are made to V. V. Shuleykin for formulating the subject of investigations. There are 4 figures and 1 table.

49-58-3-4/19

Distribution of the chlorine concentration in atmospheric precipitation above mainlands.

SUBMITTED: March 15, 1957.

ASSOCIATION: Ac.Sc. USSR, Marine Hydrophysics Institute. (Akademiya Nauk SSSR Morskoy Gidrofizicheskiy Institut).

AVAILABLE: Library of Congress.

Card 3/3

69375
SOV/35-59-10-8186

Translation from: Referativnyy zhurnal. Astronomiya i Geodeziya, 1959, Nr 10, p 79 (USSR)

AUTHORS: Dmitriyev, A.A., Chili, A.V.

TITLE: On Meteoric Streams and Precipitates

PERIODICAL: Tr. Morsk. gidrofiz. in-ta AS USSR, 1958, Vol 12, pp 181-190

ABSTRACT: Particles of meteoric origin entering the earth's atmosphere in a large quantity (~ 1,000 tons per day) affect its colloidal properties. This is particularly marked near the troposphere and in the stratosphere, where the temperature is lower than -40°C. At such a temperature any solid particles can become nuclei of crystallization and affect the precipitates. However, Bowen's conclusions (RZhAstr, 1954, Nr 8, 4614), attempting to establish a connection between the meteoric streams and the subsequent precipitates, are statistically poorly substantiated. The authors consider that the weak spot in Bowen's work is the fact that he examines the connection between meteoric streams and the subsequent precipitates at individual points. It is necessary to examine the probability of the occurrence of precipitates over a large territory. The authors chose 6 points

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on the USSR territory for which a sufficiently long series of observations of precipitates were available. For each day of the year, for a number of years, the number of points was determined at which precipitates were observed simultaneously. For each date i of year j, n_{ij} occurrences of simultaneous precipitations were obtained. In this way the introduced index characterizes the synchronous (the variation does not exceed $\pm$ 2 days) distant connections between precipitations. With the aid of the Student t-distribution the authors investigated whether it was possible to consider as random the fluctuations from day to day of the means for many years $n_{iN} = \sum_{j=1}^{N} n_{ij}/N$; the non-random character of the peaks of the monthly average recurrence was determined $n_{mN} = \sum_{j=1}^{N} \sum_{i=1}^{m} n_{ij}/mN$, where m is the number of days in the month. During the times of increased rainfall, there is a heightened stability of the simultaneous appearance of precipitates. In order to find the reason for the appearance of peaks on the histrogram of monthly average recurrences, one must look to the factors constantly manifested in definite dates, and not to the passage of occasional cyclones. The correlation of the dates of meteoric streams with the dates of the peaks has allowed one to establish a connection between them. The phase shift is found to be about 31 days, in

accordance with Bowen's conclusions. When it was checked as to whether there was a connection between the meteoric streams and the precipitations during phase shifts, differing from 31 days, it was confirmed that 31 days is the most probable period in the lag of intensification of precipitations in relation to the date of the encounter of Earth with the corresponding meteoric streams. Bibl. 11 titles.

B.M. Rubashev

Card 3/3

DMITRIYEV, A.A.

PHASE I BOOK EXPLOITATION SOV/5542

Akademiya nauk SSSR. Morskoy gidrofizicheskiy institut

Gidrometeorologiya, Gidrokhimiya (Hydrometeorology, Hydrochemistry) Moscow, 1959. 173 p. (Series: Its: Trudy, tom 16) Errata slip inserted. 1,200 copies printed.

Resp. Ed.: A.A. Ivanov; Ed. of Publishing House: L.K. Nikolayeva; Tech. Ed.: I.N. Dorokhina.

PURPOSE: This publication is intended for meteorologists, hydrologists, and chemists interested in the chemical composition of sea water.

COVERAGE: This volume of the Transactions of the Marine Hydrophysical Institute AS USSR contains articles on problems in hydrometeorology and hydrochemistry. Individual articles deal with the heat balance of the Arctic atmosphere, an experimental study of the types of atmospheric circulation, and the occurrence in sea water of such substances as sulphur, organic phosphorus, and arsenic. No personalities are mentioned. References follow individual articles.

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Hydrometeorology, Hydrochemistry SOV/5542

TABLE OF CONTENTS:

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Hydrometeorology, Hydrochemistry SOV/5542

AVAILABLE: Library of Congress

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JA/dwm/gmp
9-11-61

DMITRIYEV, A.A.; BONCHKOVSKAYA, T.V.

Approximate estimation of the advective component of heat balance in the active atmospheric layer over the Antarctica. Trudy MGI 16:3-28 '59. (MIRA 13:5)
(Antarctic regions--Atmospheric temperature)

DMITRIYEV, A.A.; ZHAVORONKINA, V.K.

Scientific mission to the Ondrejov Observatory of the Czechoslovakian Academy of Sciences in 1957. Astron.sbor no.3/4:51-56 '60. (MIRA 14:11)

1. Morskoy gidrofizicheskiy institut AN SSSR.
(Ondrejov, Czechoslovakia--Astronomical observatories)

DMITRIYEV, A.A.

Some scientific results of the mission to the Ondrejov Observatory of the Czechoslovakian Academy of Sciences. Astron.sbor no.3/4:57-62 '60. (MIRA 14:11)

1. Morskoy gidrofizicheskiy institut AN SSSR.
(Ondrejov, Czechoslovakia—Astronomical observatories)
([redacted])

44597

S/169/62/000/012/090/095
D228/D307

3,5000

AUTHORS: Dmitriyev, A.A. and Chili, A.V.

TITLE: Meteor flows and precipitation .

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1962, 6, abstract 12G32 (Tr. Mosk. gidrofiz. in-ta, AN SSSR, 12, 1958, 181-190)

TEXT: Particles of meteoric origin, entering the atmosphere in large amounts (~ 1000 tons per day), influence its colloidal properties. This is especially strongly apparent near the tropopause and in the stratosphere, where the temperature is below -40°. At such a temperature any solid particles may become crystallization nuclei and influence precipitation. The conclusions of Bowen (RZhFiz., no. 11, 1954, 14093), who attempted to establish a relation between meteor streams and subsequent precipitation, were substantiated poorly in a statistical respect. The authors reckon the fact that Bowen examines the relation of meteor streams to subsequent precipitation at separate points to be a weak spot in his

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work. It is necessary to consider the probability of appearance of precipitation on a large territory. The authors chose 6 points on the territory of the USSR where sufficiently long series of precipitation observations were available. The number of points, at which precipitation was observed simultaneously, was determined for each day of the year over a number of years. n_{ij} cases of simultaneous precipitation were obtained for each i of a year j. The index thus introduced characterizes the synchronous (the tolerance does not exceed ± 2 days) distant relations between precipitations. By means of Student's distribution t it was investigated whether the established non-random nature of the peaks of the average monthly frequencies

$$n_{mN} = \sum_{j=1}^{N} \sum_{i=1}^{m} n_{ij}/mN,$$

where m is the number of days in a month, can be reckoned as the random day-to-day fluctuations of the multiyear averages

$$n_{iN} = \sum_{j=1}^{N} n_{ij}/N.$$

Card 2/3

Meteor flows and precipitation

S/169/62/000/012/090/095
D228/D307

The stability of the simultaneous appearance of precipitation rises the moment the raininess increases. The cause of the appearance of peaks on the histogram must be sought not in the passage of random cyclones, but in factors that appear constantly on definite dates. Comparison of the dates of meteor flows with those of the peaks allowed a relation to be established between them. A displacement happens every 31 days in accordance with Bowen's conclusions. Verification of the fact that there is no relation between meteor flows and precipitation for displacements, differing from 31 days, confirms that 31 days is the most probable time of lagging in the intensification of precipitation relative to the date when the earth encounters a corresponding meteor flow. 11 references.

[Abstracter's note: Complete translation]

Card 3/3

DMITRIYEV, A.

AID P - 262

Subject : USSR/Aeronautics

Card : 1/3

Periodical : Kryl. Rod., 6, 1 - 24, Je 1954

Abstract : Articles in this issue are very popular, and are not of special interest. They are listed in the following Table of Contents:

AID P - 262

Kryl. Rod., 6, 1-24, Je 1954 (additional card)

Card : 2/3

AID P - 262

Kryl. Rod., 6, 1-24, Je 1954 (additional card)

Card : 3/3

Institution : None

Submitted : No date

DMITRIYEV, A.

AID P - 5540

Subject : USSR/Aeronautings - Gliding

Card 1/1 Pub. 58 - 14/15

Authors : Petryanov, L., and A. Dmitriyev

Title : VI-th World Competitions in gliding sports

Periodical : Kryl. rod., 12, 23, D 1956

Abstract : An account of the VIth World Competitions in Gliding held at the end of 1956 in France.

Institution : None

Submitted : No date

DMITRIYEV, A.

85-57-12-23/29

AUTHORS: Tat'yanchenko, A. and Dmitriyev, A.

TITLE: Czech Sports Planes (Chekhoslovatskiye sportivnyye samolety)

PERIODICAL: Kryl'ya rodiny, 1957, Nr 12, pp 29-30 (USSR)

ABSTRACT: The authors credit the popularity of aviation sports in Czechoslovakia in the past few years for the superiority of new Czech airplanes. These include the Z-126 Trener II; the Walter Minor 4-S and Walter Minor 6-S (produced in two models, the Z-226 B and the Z-226 T); the L-60 Brigadyr, equipped with a Praga Doris B engine; the LD-40 Meta Sokol; the Z-226 Trener, which replaced the older Z-26 and Z-126 sports planes; the Super-Aero-45; the Tom-8, and the ChC-2 helicopter, equipped with a 4-cylinder Praga-DCh engine. Personalities mentioned include: V. Pankrat; L. Hurt; I. Seibrat, and J. Kohoutek. There are 6 photographs and 4 sketches.

AVAILABLE: Library of Congress

Card 1/1 1. Aviation-Czechoslovakin helicopters

S/004/60/000/007/001/003
A104/A029

AUTHORS: Dmitriyev, A.; Smilga, V.; - Physical Scientific Workers

TITLE: On Star-Bound Travel

PERIODICAL: Znaniye-Sila, 1960, No. 7, pp. 30 - 33

TEXT: This article is a dispute on the possibility and technical requirements of astronautics as asserted by A. Dmitriyev and denied by V. Smilga. The former refutes the opinion that distances of many light years will prove an insurmountable obstacle and in referring to the theory of relativity points out the enormous gain of time for passengers of a space ship travelling at a speed close to C (velocity of light). From our point of view time passes slower in such a ship, i.e., the faster the ship the slower the passage of time and a decade on the earth is equivalent to only 1 year in a space ship. Rockets driven by chemical fuel are unsuitable for space travel whereas ionic (electronic), nuclear and photonic rockets deserve consideration. The first type would develop a powerful thrust by projection of electrically charged particles at 150 - 250,000 km/sec, the second type by projection of powerful flows of high-powered nuclear particles. These can be obtained either by splitting of heavy nuclei or

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On Star-Bound Travel

by a synthesis of light nuclei into heavy ones. Finally, photonic rockets would achieve the highest possible speed by development and projection of powerful electromagnetic radiation. Any process resulting in strong electromagnetic radiation can serve this purpose, though most hopes are centered on the reaction of annihilation caused by the contact of electrons and positrons. This reaction ceases the individual existence of these particles which become a part of the electromagnetic Gamma-radiation and produce an energy many times greater than that of most effective atomic processes. Having mastered the production of necessary quantities of positrons and the difficult problem of their storage and transportation man will also learn to use them as the best imaginable type of fuel. The electromagnetic radiation derived by annihilation of electrons and positrons is liberated as Gamma-quanta; by developing a method of collecting them in directed flow-beams the design of a photonic rocket will become reality. The amounts of "fuel" required to accelerate the rocket up to required speeds are shown in Table 1. Contrary to A. Dmitriyev, V. Smilga categorically rejects the possibility of photonic rockets in view of the enormous weight of such a rocket and the even greater weight of necessary fuel. The annihilation process is not considered a solution in view of the impossibility to design a safe container for positrons. The hope that the "flying tube", a direct-flow photonic engine might be

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A104/A029

On Star-Bound Travel

able to use interplanetary substances in lieu of fuel also seems futile. At speeds up to 200,000 km only small quantities of these substances could penetrate the rocket and at higher speeds the effectiveness of the direct-flow would be rendered negligible in view of a too small difference in the velocity of sucked-in and ejected particles. There is 1 table.

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DMITRIYEV, A.

But there should be a solution! Znan.sila 35 no.7:34-35 Jl '60. (MIRA 13:7)
(Photon rockets)

DMITRIYEV, A.

Protection against radiation is possible. Znan.sila 35 no.7: 37 Jl '60. (MIRA 13:7)
(Space flight) (Radiation protection)

DMITRIYEV, A., inzh.-polkovnik

Gas is not dreadful when you have a gas mask. Starsh.-serzh. no.2:33 F '62. (MIRA 15:4)

(Gas masks)

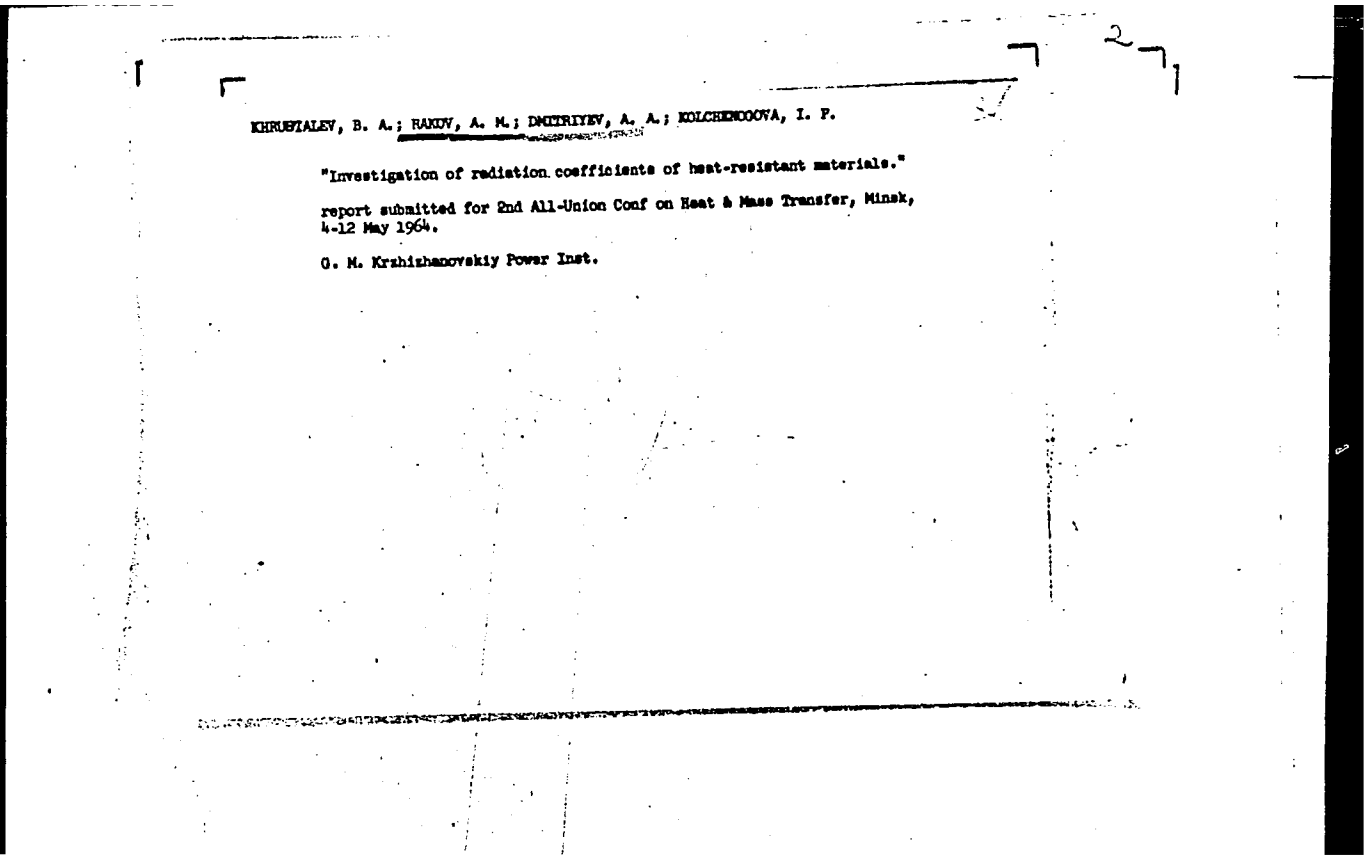
DMITRIYEV, A.; SEMENOV, V.

Radio equipment for proportional control of a airplane model to be concluded. Kryl.rod. 13 no.2:27-29 F '62. (MIRA 15:1)
(Airplanes--Models)
(Airplanes--Radio control)

DMITRIYEV, A.; SEMENOV, V.

Radio equipment for proportional control of an airplane model (conclusion). Kryl. rod. 13 no.3:26-28 Mr '62.

(MIRA 18:5)



KHRUSTALEV, B. A.; RAKOV, A. M.; DMITRIYEV, A. A.; KOLCHENKOOVA, I. P.

"Investigation of radiation coefficients of heat-resistant materials."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

G. M. Krzhizhanovskiy Power Inst.

DMITRIYEV, A., dots. (Khabarovsk)

Increasing tracklayer productivity. Zhel.dor.transp. 36 no.3: 77-78 Mr '55. (MIRA 12:5)
(Railroads--Tracklaying machinery)

DMITRIYEV, A.A., dotsent.

Wide-scale tests are needed of jointless track attached to a monolithic concrete base. Zhel.dor.transp. 37 no.12:64-66 D '55. (MLRA 9:5)

(Railroads--Rails)

DMITRIYEV, A. A.

USSR/Medicine - Dysentery FD-547

Card 1/2 Pub. 148 - 10/23

Author : Mikhaylova, N.D.; Dmitriyev, A.A. ; and Petrovskiy, I. N.

Title : Treatment of chronic dysentery with alcohol vaccine according to Chernokhvostov's method.

Periodical : Zhur. mikrobiol. epid. i immun. 6,30-31, Jun 54

Abstract : A vaccine prepared from Flexner and Sonne bacteria by the Moscow City Bacteriological Institute was used to treat 56 adults and 28 infants suffering from chronic dysentery. The vaccine was administered in progressively larger doses. After 8-9 injections, 43 of the adults suffering from Flexner dysentery gave negative stool cultures, and were released from the hospital. Three were cured after a second course of injections and four, after a second course plus supplemental treatment with sulfanilamides, bacteriophage and antibiotics. Three patients continued to eliminate the Flexner bacteria. One adult patient with Smitz-Stutzer dysentery did not respond to this treatment. Two Sonne dysentery patients were released after the first course of treatment, a third required a second course. The 28 children were released after one course, but all of them after various intervals, were readmitted. None of the adults suffered relapses. No references are cited.

DMITRIYEV, A. A.

Dmitriyev, A. A. - "Clinical-Epidemiological Indexes of Infectious Pathology during the First and Second World Wars." Min Health RSFSR. Rostov State Medical Inst. Rostov na Donu, 1956 (Dissertation for the Degree of Doctor in Medical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

ZOLOTAREVSKIY, V.S., kand.tekhn.nauk; CHERNYAK, B.Ya.; SHARAPOV, K.A.; ZOLOTAREVSKIY, L.S.; DMITRIYEV, A.A.

New piezoquartz transmitter. Avt.prom. no.2:32-33 F 60. (MIRA 13:5)

1. Laboratoriya dvigateley AN SSSR.
(Oscillators, Crystal)

DMITRIYEV, Aleksey Aleksandrovich; RODDATIS, Konstantin Fedorovich; SHUKHER, S.M., red.; BORUNOV, N.I., tekhn. red.

[Boiler systems in the German Federal Republic] Kotel'nye ustanovki Federativnoi Respubliki Germanii. Pod red. K.F.Roddatisa. Moskva, Gos.energ.izd-vo, 1961. 351 p. (MIRA 15:1)
(Germany, West--Boilers)

S/113/60/000/002/005/009
D207/D306

AUTHORS: Zolotarevskiy, V. S., Candidate of Technical Sciences, Chernyak, B. Ya., Sharapov, K. A., Zolotarevskiy, L. S. and Dmitriyev, A. A.

TITLE: A new piezoelectric crystal pickup

PERIODICAL: Avtomobil'naya promyshlennost', no. 2, 1960, 32-33

TEXT: The Laboratoriya dvigateley AN SSSR (Engines Laboratory, AS USSR) has developed the ЛДК-03 (LDK-03) piezoelectric crystal pickup for use with a cathode-ray oscillograph in studying the working process of piston engines.(illustrated below). The case 1 contains a thin-walled brass socket 2, inside which are contained the crystal plates 3, the lower spherical support 4, the upper support 5 and the charge tapping system 6. The crystal plates are centered by rings 7. At the bottom of the pickup is fixed a corrugated steel membrane 8 fastened to the socket 2 by a screw 9. The membrane is packed down by an intermediate pressure bush 10 and a female screw 11. The latter also serves as a tapping contact and

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D207/D306

A new piezoelectric crystal pickup

ature. The pickup can pass oscillations up to a limit of 8,000 - 10,000 cycles. No characteristic distortion of the indicator diagram due to the pickup's relatively high frequency of natural oscillations in a transverse direction (25,000 - 30,000 cycles) could be observed even at engine revolutions of 4,500 rpm. To ensure linear indicating characteristics the crystal elements are compressed beforehand with the help of the brass socket. The pickup's high degree of sensitivity depends on: 1) the high coefficient of the membrane which reaches 0.7; 2) the low degree of membrane rigidity due to its thinness (0.15-0.20 mm) and corrugation; 3) the low relation between the longitudinal rigidity of the socket walls and that of the central power line (supports and crystal elements) due to the thinness of the socket walls (0.2 mm). The pickup's dimensions are: length 70 mm maximum, diameter of the threaded insert end 14 mm, case diameter 18 mm. The pickup has proved highly reliable, stable and accurate. Used in conjunction with the Engines Laboratory's indicator calibration method it ensures accurate indication with an error of no more than 2-3%. The pickup is presently used in all engine indication work at the Laboratory and can be

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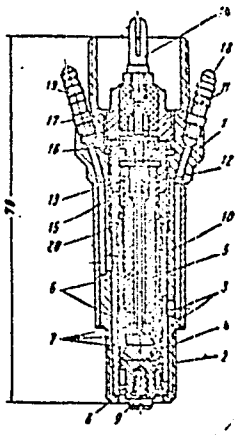
D207/D306

A new piezoelectric crystal pickup

secures the pickup parts in the case. The nut 12 fixes the upper support 5 in the socket 2 and transmits the pressure of the screw 11 via the thick part of the socket to the pressure bush 10. The electric charge developed by the crystals is led off via the tapping system 6, the spring 13 and the contact rod 14. Insulation is effected by three amber collars 15, 16 and 17. The pickup is cooled by running water which enters by the inlet tube 18 and proceeds via channels in the case and pressure bush directly to the membrane and hence to the outlet tube 19. A rubber ring 20 prevents the water from penetrating to the electrical tapping system. The pickup is not affected by cyclic temperature changes in the engine cylinder since the corrugated form of the steel membrane compensates linear changes due to temper-



Card 2/4

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D207/D306

A new piezoelectric crystal pickup

recommended for commercial series production. There is 1 figure and 1 Soviet-bloc reference.

ASSOCIATION: Laboratoriya dvigateley, AN SSSR (Engines Laboratory, AS USSR)

Card 4/4

KRUGER, M.Ya., inzh.; PANOV, V.A., kand. tekhn. nauk; KULAGIN, V.V., kand. tekhn. nauk; POGAREV, G.V., kand. tekhn. nauk; KRUGER, Ya.M., inzh.; LEVINZON, A.M., inzh.; Prinimal uchastiye KALINKEVICH, V.N., inzh.; KAZANSKIY, A.V., kand. tekhn. nauk, retsenzent; DMITRIYEV, A.A., inzh.; SIMONOVSKIY, N.Z., red. izd-va; MITARCHUK, G.A., red.izd-va; SHCHETININA, L.V., tekhn. red.

[Handbook for the designer of optical instruments] Spravochnik konstruktora optiko-mekhanicheskikh priborov. [By] M.IA. Kruger i dr. Moskva, Mashgiz, 1963. 803 p. (MIRA 16:12)
(Optical instruments)

SOKOLOV, L.G.; AZIZOV, M.M.; ZHURAVLEVA, L.S.; DMITRIYEV, A.A.

Investigating the architectural design type of a general purpose dry-cargo ship of 3000-4000-ton deadweight capacity. Trudy TSNIIMF no.45:3-26 '63. (MIRA 16:9)

DMITRIYEV, A.A.

Production and use of low grade natural rubber in capitalist countries. Kauch. i rez. 23 no.6:42-46 Je '64.
(MIRA 17:9)

1. Nauchno-issledovatel'skiy kon"yunkturnyy institut.

USSR/Metals - Cutting Jul 51

"Two-Dimensional Problem of Temperature of Cutting Metals," A. A. Dmitriev

"Zhur Tekh Fiz" Vol XXI, No 7, pp 832-841

Speed of cutting depends on thermal range. Dmitriev attempts to solve problem theoretically by computing temp of cutter for given parameters, and dimensionless parameters necessary for generalization of exptl data. He was assisted by Prof A. V. Pankin, Eugenie Pankina and A. S. Luganskiy, student at Moscow Automotive Mech Inst. Submitted 18 Apr 50.

LC 189T77

GUDKEVICH, L. A. DMITRIYEV, A. A.
ZALKIND, YE. M., LIVSHITS, E. M.

Furnaces, Electric Welding

Designing, constructing and operating peg slag screens. Elek. sta. 23 No. 3, 1952, Inzh.

SO: Monthly List of Russian Accessions, Library of Congress, July 1952 1953, Uncl.

KROHL, M.; DMITRIYEV, A.A. [translator]; OZERSKIY, V.A., redaktor; LARIONOV, G.Ye., tekhnicheskiy redaktor

[Improvement of shaft type impact mills. Translated from the German] Usovershenstvovanie shakhtnoi mel'nitsy. Perevod s nemetskogo A.A.Dmitrieva. Moskva, Gos. energ. izd-vo, 1956. 7 p. (MLRA 10:2) (Pulverizers)

DMITRIYEV, A.A., inzhener; KOSAREV, L.M., inzhener.

Multipurpose stamping dies. Izobr. v SSSR no.1:26-29 Jl '56.
(MLRA 10:3)

(Dies (Metalworking))

DMITRIYEV, A.A.

ENGLER, O.; DMITRIYEV, A.A. [translator]; OZERSKIY, V.A., red.; MEDVEDEV, L.M., tekhn.red.

[Starting and operation of once-through type boilers in unit-plant arrangements] Pusk i rabota priamotochnykh kotlov pri blochnykh skhemakh. [Perevod s nemetskogo A.A.Dmitrieva.] Moskva, Gos.energ. izd-vo, 1957. 7 p. (MIRA 11:1)

(Boilers)

DMITRIYEV, A. A., POPOV, B. N., KALUGIN, V. F.,

"Development and Mastering of Methods for Rollling Sheets and Strips of Titanium And Its Alloys," Titan i yego splavy; metallurgiya i metallovedeniye (Titanium and Its Alloys; Metallurgy and Physical Metallurgy), Moscow, Izd-vo AN SSSR, 1958. p 152.

Ministry of Aircraft Industry of the USSR

DMITRIYEV A.A.

18(2) PHASE II - ABSTRACTS AB-1

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy; metallurgiya i metallovedeniye (Titanium and Its Alloys; Metallurgy and Physical Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 209 p. 4,000 copies printed.

Resp. Ed.: N.V. Ageyev, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Rzheznikov; Tech. Ed.: A.A. Kiseleva.

INTRODUCTION: This book, of which a Phase I Exploitation (SOV/1200) has been prepared, is a collection of scientific papers devoted to the study of titanium and its alloys from three main points of view: physical metallurgy, forming, and welding. Special problems investigated include structural changes occurring during welding, determination of the content of harmful gases, development of industrial methods of rolling, and oxidation at various temperatures.

PART I. PHYSICAL METALLURGY

Card 1/13

Kalugin, V.F., B.N. Popov, and A.A. Dmitriyev (Ministry of the Aircraft Industry of the USSR) Development and Practical Application of Methods for Rolling Sheets and Strips of Titanium and Its Alloys 152

The aim of this investigation was to develop a method of rolling titanium and titanium-alloy sheets, produced by the "Elektrostal'" Plant. The method developed consists of the following steps: (1) Production of ingots of VT-1D and VT-5D alloys. (2) Turning the ingots on a lathe. (3) Drop-forging the ingots into billets 20-35 mm in thickness. Forging conditions for VT-1D alloy: heating the ingot to 950° (heat-up time: 40-60 minutes), with intermediate heating for 7-[redacted] min; for VT-5D alloy: heating of ingot to 1050° (heat-up time: 40-50 minutes). (4) Planing of billets to a depth of 1-2 mm. (5) Hot rolling of billets into sheet 2.0 mm thick; rolling conditions for VT-1D: heating of billet to 950° (heat-up time: 20-25 minutes) without intermediate heating, reduction of 25-35 percent per pass; for VT-5D: heating of billet of 1000° (heat-up time: 20-25 minutes), intermediate heating for 1-2 minutes, reduction of 20-25 percent per pass. (6) Annealing of VT-1D sheets at 700-750°, holding for 10 minutes. (7) Immersion for 30 minutes in fused-alkali bath

(80 percent $NaOH$, 20 percent $NaNo_3$), washing, pickling in acid solution, and final washing. To produce strip, hot-rolled sheet 2.2 mm, in thickness is cut into strips 200 mm wide and annealed at 700° for ten minutes. After annealing, the strips are butt-welded together using an argon-shielded arc to form a coil. The strip is then cold-rolled in 10 passes on a four-high mill, with tension in one direction, to a final thickness of 0.6 mm with intermediate annealing at thicknesses of 1.55 mm, and 0.8 mm. There are 6 figures and 5 tables, no references.

Sokolikov, K.I., V.N. Moiseyev (Ministry of the Aircraft Industry of the USSR) Hot Rolling of Commercial Titanium and Several of Its Alloys 162

Results are presented of an investigation to determine a satisfactory procedure for the hot rolling of VT-1D commercial titanium and two of its alloys (VT-2D and VT-5D). Directions are given for the production and forging of ingots and the heat treatment of forged blanks for rolling. The authors summarize the results of the investigation as follows: (1) A determination was made of the basic mechanical and manufacturing properties of VT-1D commercial titanium and VT-2D and VT-5D titanium

KALUGIN, V.F.; POPOV, B.N.; DMITRIYEV, A.A.

Developing and mastering the sheet and strip rolling procedure for titanium and its alloys. Titan i ego splavy no. 1:152-161 '58. (MIRA 14:5)

1. Ministerstvo aviatsionnoy promyshlennosti SSSR.
(Titanium) (Rolling (Metalwork))

DMITRIYEV, A. A.

Murzov, A. I., and A. A. Dmitriyev. Die Rolling of Blanks for Turbine Blades. p.25

Kalugin, B. F.; T. S. Kuzina; and A. A. Dmitriyev. Methods of Titanium-base Alloy Sheet Rolling p.56

Pressure Treatment of Alloys; Collection of Articles, Moscow, Oborongiz, 1958, 141pp.

DMITRIYEV, A.A., inzh.

Present-day methods for burning moist fuels. Energetik 8 no.9: 21-25 S '60. (MIRA 14:9)
(Furnaces) (Fuel)

L 12926-63 EWP(k)/EWP(q)/EWT(m)/BDS ASD/AFFTC Pf-4 JD/HW/JG/WB
ACCESSION NR: AP3001014 S/0193/63/000/004/0012/0015

AUTHOR: Dmitriyev, A. A.; Kalugin, V. F.; Grigor'yeva, G. A.

TITLE: Rolling of bimetallic titanium-aluminum, titanium-copper, and titanium-nickel sheet

SOURCE: Byul. tekhniko-ekonomicheskoy informatsii, no. 4, 1963, 12-15

TOPIC TAGS: clad titanium-alloy sheet, copper cladding, nickel cladding, hot dipping, electrodeposition, diffusion annealing, titanium, titanium-alloy sheet, titanium alloy

ABSTRACT: Self-ignition of titanium and its alloys in gaseous or liquid oxygen can be effectively prevented by cladding with aluminum, copper, or nickel. Cladding metals can be applied by placing a plate of cladding metal on a titanium plate and welding them around the edges (for aluminum, copper, and nickel), by dipping the titanium plate into molten alumimum at 700 to 730C and holding for 3 to 40 min [sic], or by electrolytic deposition (for copper or nickel). The composite plates are then hot rolled to the desired dimensions. Composite plates obtained by dipping into molten aluminum are only cold rolled with a reduction of 5% max. To improve bond strength, the clad sheets are diffusion annealed in a 10^{-3} to 10^{-4}

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mm Hg vacuum — aluminum-clad sheets at 450C for 5 hr, and copper- or nickel-clad sheets at 650C for 5 hr. The 1.5-mm thick copper-clad OT4 alloy [RS 110 BI] sheets had a yield strength of 60 to 68 kg/mm^2, a tensile strength of 70 to 81 kg/mm^2, and an elongation of 18 to 31%; corresponding figures for aluminum-clad OT4 alloy were 60 to 77 kg/mm^2, 72 to 80 kg/mm^2, and 18 to 22%, and for unclad OT4, 55 to 64 kg/mm^2, 70 to 90 kg/mm^2, and 15 to 40%. Microhardness tests showed that the cladding-titanium alloy interface is softer than the base metal and that vacuum annealing increases the ductility of the interface layer. Microscopic analysis revealed that the rather sharp boundary between the cladding and base metal becomes indistinct after diffusion annealing owing to the diffusion of titanium into the cladding. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 11Jun63 ENCL: 00

SUB CODE: ML,MA NO REF SOV: 000 OTHER: 000

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KRAYEV, V.I., kand. ekon. nauk; DMITRIYEV, A.A.; STOYAKOV, A.K.

Results of studying the fitness of the "Poltava" type ships for the discharging and receiving of cargo. Trudy TSNIIMF no.61: 64-79 '64. (MIRA 19:1)

FRIDMAN, L.S., kand.ekonom.nauk; DMITRIYEV, I.A., inzh.

The expediency of building a lumber carrier for mixed navigation. Sudostroenie 31 no.1:15-16 Ja '65. (MIRA 18:3)

DMITRIYEV, A. B.

120-2-1/37

AUTHOR: Dmitriyev, A. B.

TITLE: Gas Discharge Counters for Ionising Particles (Survey). (Gazorazryadnyye Schetchiki Ionizuyushchikh Chastits).

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.2, pp. 3 - 10 (USSR).

ABSTRACT: A detailed survey of the characteristics of the gas discharge counters designed and produced in the Soviet Union is given. Principles of operation of the three main types of counters, i.e. the ionisation chamber, the proportional and the Geiger-Muller counters are outlined. The author then proceeds to tabulate and discuss the characteristics of gamma-radiation counters. The characteristics of γ-ray counters are tabulated in Table 1, giving the following parameters (rows) against the counter type (columns): number of sizes in the series, diameter in mm, length in mm, working voltage, minimum plateau voltage, maximum slope in %100V, working temperature range °C, and minimum registering capacity. The most convenient types are CTC and CTC, which have practically an infinite capacity at the minimum working voltage. Types MC have copper cathodes, CTC have stainless steel cathods and types BC

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have tungsten cathods. Their sensitivities to gamma rays of various energies are given in Table 2. The absolute efficiency of the type CTC-8 for the gamma radiation of C^{60}_{0} is 0.3%. The type MCTR-4 is used for the detection of 1.4 Å X-rays. The type CFK-1 is used for the ultra-violet radiation detection in open flame. The type CFC-4 is specifically designed to register γ-radiation by measuring the mean value of the current using an integrating condenser of 0.5μF (Fig. 6.). The characteristics of hard beta radiation counters are given in Table 3, the last column being the maximum counting speed in pulses per minute; the characteristics of the soft beta radiation counters are given in Table 4. Counters for the detection of beta-active isotopes, i.e. counters filled with a mixture of Argon plus isopentane (2%) are listed in Table 5, giving against the counter type the cathode diameter in mm, length of the working part in mm, cathode material, minimum plateau voltage, maximum slope in %100V and the working voltage. Proportional counters for alpha particles are listed in Table 6, giving, against the type: the window diameter, the maximum surface density in mg/cm^2, working voltage and sensitivity in mV. Proportional counters for

slow neutrons are listed in Table 7. Since the slow

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neutrons are not ionising particles and are registered by the intermediary of charge particles obtained from the nuclear reaction $B^{10} + n' \rightarrow Li^{7} + He^{4}$ boron is introduced into the slow neutron detectors either as a gas or as the cathode coating. Most of the available ionisation chambers are of specialised types and the only ones for general use are types KPT and KH-14. Their main characteristics are given. There are nine photographs of nearly all available counters, six tables of characteristics parameters, one graph of type CTC-3 and CTC-5 counting speed against the radiation dose, one graph of the characteristics of counter CSC-2 and two basic circuit diagrams.

SUBMITTED: January, 10, 1957.

AVAILABLE: Library of Congress.

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DMITRIYEV A. B.

A. B. DMITRIYEV

"BARON IONIZATION CHAMBERS FOR WORK IN REACTORS" by A. B. Dmitriyev

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958

SOV-120-58-1-26/43

AUTHORS: Dmitriyev, A. B. and Leven-Fisher, N. P.

TITLE: An Apparatus for the Supply of Pure Noble Gases under High Pressure (Apparatura dlya polucheniya chistykh blagorodnykh gazov pod bol'shim davleniyem)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 109-116 (USSR)

ABSTRACT: A description is given of an apparatus for supplying pure noble gases (He, Ne, Ar, Kr, Xe) under a pressure of 75 atm and the equipment necessary in the use of these gases. The apparatus delivers gases containing less than 0.001% of impurities. The development of the apparatus was begun in 1953. Two of the vacuum valves which were used are shown in Figs.1 and 2. They can be used up to 50-75 atm. Fig.3 shows a reducing valve which was used to reduce the pressure in transferring the gas to a glass container. The reducer lowers the pressure from 70 atm to 200 mm and can be evacuated to a pressure of 10^{-5}mm Hg. Fig.4 shows a gas reservoir having a capacity of 0.75 ℓ at a pressure of 75 atm. Details of the setup used in chemical purification are given and are illustrated in Figs.5 and 6. Chemical purification was carried out as follows. The gas from the reservoir (Fig.5) was passed through a reducer into a glass rheometer and then

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An Apparatus for the Supply of Pure Noble Gases under High Pressure.

through three holders. The first holder contains porous copper at 450°C and absorbs oxygen, the second holder contains calcium at 700°C and absorbs nitrogen, carbon dioxide and the residual oxygen, and the third holder contains copper oxide at 450°C and absorbs hydrogen (with the formation of water vapour). After the chemical purification the gas is cooled down to about -175°C which removes water vapour and is then stored in steel cylinders at liquid nitrogen temperature. A device for purification by adsorption is shown in Fig.8. It can be used to obtain pure neon from a mixture of nitrogen, neon and helium, and pure helium from a product containing 99.7% He. The apparatus works in an eight hour cycle giving 200 ℓ of pure neon per

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cycle, the helium impurity being less than 0.5%. There are 13 figures, no tables and 7 Soviet references.

SUBMITTED: May 20, 1957.

1. Gases--Handling 2. Gases--Pressure 3. Gases--Purification
4. Gases--Storage

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AUTHOR: Dmitriyev, A.B. 89-4-4-16/23

TITLE: Volt-Ampère Characteristics of Boron-Ionization Chambers (Vol'tampernyye kharakteristiki bornykh ionizatsionnykh kamer)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 4, pp. 383-385 (USSR)

ABSTRACT: For ionization chambers of the types KNT-49, KNT-50, KNT-52 the V-A characteristics were recorded when being irradiated in a research reactor with slow neutrons.
The following data were measured:

Type of chamber	d in mm	Working gas	Pressure	U_N in V	i_N $\mu A/cm^2$
KNT-49	5	Air	660 mm Hg	1000	0,20
			410 mm Hg	1000	0,30
		Neon	3 at	400	0,20
			3 at	300	0,10

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Volt-Ampère Characteristics of Boron-Ionization Chambers 89-4-4-16/28

KNT-49		Argon	2 at	750	0.16
			600 mm Hg	500	0,15
			320 mm Hg	250	0,06
			320 mm Hg	300	0,11
KNT-50	6	Argon	600 mm Hg	350	0,16
KNT-52 (Nr 1)	1,6	Argon	6 at	300	0,46
				450	0,92
				550	1,6
KNT-52 (Nr 2)	1,6	Argon	6 at	800	5,4
				300	0,76

Here d denotes the distance between the electrodes, U_N - experimental saturation voltage, i_N - experimental saturation current. There are 3 figures, 1 table, and 4 references, 2 of which are Soviet.

SUBMITTED: May 21, 1957

Card 2/2 1. Ionization chambers--Electrical properties 2. Ionization chambers--Performance